

REMARKS

In response to the final Office Action dated August 11, 2008, Applicants have amended the claims, which when considered with the following remarks, is deemed to place the present application in condition for allowance. Favorable consideration and allowance of all pending claims is respectfully requested. The amendments to the claims have been made in the interest of expediting prosecution of this case. Applicants reserve the right to prosecute the same or similar subject matter in this or another application.

By this Amendment, Claim 39 has been amended, Claims 1-38 were cancelled and new Claims 46-80 have been added. Claim 39 has been amended to further define an embodiment of the present invention by reciting that the system includes, *inter alia*, “a) a supply of a major amount of at least one base oil of lubricating viscosity; b) a supply of a minor amount of at least one lubricating oil additive; c) a plurality of test receptacles; d) means for conducting molecular modeling of the at least one base oil of lubricating viscosity and the at least one lubricating oil additive to provide leading candidates of the at least one base oil of lubricating viscosity and at least one lubricating oil additive for combination to formulate a leading candidate lubricating oil composition for testing; a means for conducting molecular modeling of the at least one base oil of lubricating viscosity and the at least one lubricating oil additive to provide leading candidates of the at least one base oil of lubricating viscosity and at least one lubricating oil additive for combination to formulate a leading candidate lubricating oil composition for testing”. Support for the amendment to Claim 39 can be found throughout the specification, e.g., on page 15, line 19 through page 20, line 20. New Claim 46 is directed to a system for screening lubricating oil composition samples and contains similar limitations found in amended Claim 39. New Claims

47-80 are directed to methods for screening lubricating oil additive samples and lubricating oil composition samples and contain similar limitations found in amended Claim 39. Accordingly, support for new Claims 46-80 can be found throughout the specification, e.g., original Claims 1-39 and on page 15, line 19 through page 20, line 20. Applicants respectfully submit that no new matter has been added to this application. Moreover, it is believed that the claims as presented herein places the application in condition for allowance.

In the last Office Action mailed August 11, 2008, the Examiner rejected Claims 39-42 under 35 U.S.C. §103(a) as being unpatentable over Kolosov et al., U.S. Publication No. 2004/0123650 ("Kolosov et al.") and in view of O'Rear U.S. Publication No. 2003/0100453 ("O'Rear") and the Condensed Chemical Dictionary, page 20, 10th ed. 1981 ("the Dictionary").

Nowhere in Kolosov et al., O'Rear and *The Condensed Chemical Dictionary*, either alone or in combination, is there any disclosure or suggestion of a system for screening lubricant performance, under program control, which comprises, *inter alia*,

"d) means for conducting molecular modeling of the at least one base oil of lubricating viscosity and the at least one lubricating oil additive to provide leading candidates of the at least one base oil of lubricating viscosity and at least one lubricating oil additive for combination to formulate a leading candidate lubricating oil composition for testing;

e) means for combining selected quantities of the major amount of the at least one leading base oil of lubricating viscosity candidate with selected quantities of the minor amount of the at least one leading lubricating oil additive candidate in the plurality of test receptacles to form a plurality of leading candidate lubricating oil composition samples in the plurality of test receptacles;

- f) receptacle moving means for individually positioning said test receptacles in a testing station for measurement of storage stability in the respective sample;
- g) means for measuring a first storage stability measurement of the lubricating oil composition sample moved to the testing station and for transferring said first storage stability measurement to a computer controller, wherein said computer controller is operatively connected to the means for individually moving the test receptacles, and further wherein the means for measuring the first storage stability measurement is carried out in the absence of heating each lubricating oil composition sample;
- h) means for measuring a second storage stability measurement of the lubricating oil composition sample moved to the testing station and for transferring said second storage stability measurement to the computer controller, and wherein the means for measuring the second storage stability measurement is carried out after each lubricating oil composition sample is heated to a predetermined temperature for a predetermined time; and
- i) means for comparing said second storage stability measurement to said first storage stability measurement of each lubricating oil composition sample to obtain storage stability data for each sample” as presently recited in amended Claim 39.

Rather, Kolosov et al. simply disclose a high throughput system which may be used to measure numerous properties, including viscosity, thermal degradation, aging characteristics, and agglomeration or assemblage of molecules of materials such as lubricants. Nothing in Kolosov et al., however, provides any disclosure or suggestion of the system as set forth in amended Claim 39.

O'Rear and *The Condensed Chemical Dictionary* certainly do not cure and are not cited as curing the deficiencies of Kolosov et al. In contrast, O'Rear is cited for its disclosure of additives in finished lubricants which are said to be used in amounts that are known to those of skill in the art, while *The Condensed Chemical Dictionary* is cited for its definition of the term "additive" as being any substance incorporated into a base material, usually in low concentrations, to perform a specific function. Accordingly, nothing in Kolosov et al., O'Rear and *The Condensed Chemical Dictionary* would lead one skilled in the art to combine these disclosures and arrive at a system for screening lubricant performance, under program control, which comprises, *inter alia*,

- "d) means for conducting molecular modeling of the at least one base oil of lubricating viscosity and the at least one lubricating oil additive to provide leading candidates of the at least one base oil of lubricating viscosity and at least one lubricating oil additive for combination to formulate a leading candidate lubricating oil composition for testing;
- e) means for combining selected quantities of the major amount of the at least one leading base oil of lubricating viscosity candidate with selected quantities of the minor amount of the at least one leading lubricating oil additive candidate in the plurality of test receptacles to form a plurality of leading candidate lubricating oil composition samples in the plurality of test receptacles;
- f) receptacle moving means for individually positioning said test receptacles in a testing station for measurement of storage stability in the respective sample;
- g) means for measuring a first storage stability measurement of the lubricating oil composition sample moved to the testing station and for transferring said first storage stability

measurement to a computer controller, wherein said computer controller is operatively connected to the means for individually moving the test receptacles, and further wherein the means for measuring the first storage stability measurement is carried out in the absence of heating each lubricating oil composition sample;

h) means for measuring a second storage stability measurement of the lubricating oil composition sample moved to the testing station and for transferring said second storage stability measurement to the computer controller, and wherein the means for measuring the second storage stability measurement is carried out after each lubricating oil composition sample is heated to a predetermined temperature for a predetermined time; and

i) means for comparing said second storage stability measurement to said first storage stability measurement of each lubricating oil composition sample to obtain storage stability data for each sample" as presently recited in amended Claim 39.

For the foregoing reasons, amended Claims 39-42 are believed to be non-obvious, and therefore patentable, over the combination of Kolosov et al. with O'Rear and *The Condensed Chemical Dictionary*.

New Claims 46-80 are also believed to patentable over the combination of Kolosov et al. with O'Rear and *The Condensed Chemical Dictionary* for at least the same reasons. Accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

In the last Office Action mailed August 11, 2008, the Examiner rejected Claim 43 under 35 U.S.C. §103(a) as being unpatentable over Kolosov et al. in view of both O'Rear, and the Condensed Chemical Dictionary and further in view of Tolvanen et al. U.S. Patent No. 5,715,046 ("Tolvanen et al.").

The deficiencies of Kolosov et al., O'Rear and *The Condensed Chemical Dictionary* discussed above with respect to the rejection of amended Claim 39, from which Claim 43 depends, apply with equal force to this rejection. Tolvanen et al. do not cure and are not cited as curing the deficiencies of Kolosov et al., O'Rear and *The Condensed Chemical Dictionary*. In contrast, Tolvanen et al. simply disclose a device that determines the stability or storability of oil by measuring the intensity of light scattering from the oil surface after an asphaltene flocculating liquid is added to the oil sample. Thus, Tolvanen et al. are likewise no more relevant a reference than Kolosov et al., O'Rear and *The Condensed Chemical Dictionary*. Specifically, Tolvanen et al., as with Kolosov et al., O'Rear and *The Condensed Chemical Dictionary*, nowhere disclose or suggest the presently recited system set forth in amended Claim 39 from which Claim 43 depends. Therefore, Claim 43 is believed to be non-obvious, and therefore patentable, over the combination of Kolosov et al. with O'Rear, *The Condensed Chemical Dictionary* and Tolvanen et al. Accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

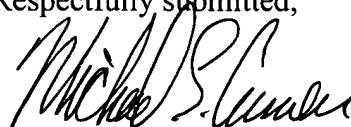
In the last Office Action mailed August 11, 2008, the Examiner rejected Claims 44 and 45 under 35 U.S.C. §103(a) as being unpatentable over Kolosov et al. in view of both O'Rear, and the Condensed Chemical Dictionary and further in view of Garr et al. U.S. Patent No. 5,993,662 ("Garr et al.").

The deficiencies of Kolosov et al., O'Rear and *The Condensed Chemical Dictionary* discussed above with respect to the rejection of amended Claim 39, from which Claims 44 and 45 depends, apply with equal force to this rejection. Garr et al. do not cure and is not cited as curing the deficiencies of Kolosov et al., O'Rear and *The Condensed Chemical Dictionary*. In

contrast, Garr et al. simply disclose a method for producing a large chemical library of products in which the reaction tubes and product are identified by a unique code. Thus, Garr et al. are likewise no more relevant a reference than Kolosov et al., O'Rear and *The Condensed Chemical Dictionary*. Specifically, Garr et al., as with Kolosov et al., O'Rear and *The Condensed Chemical Dictionary*, nowhere disclose or suggest the presently recited system set forth in amended Claim 39 from which Claims 44 and 45 depends. Therefore, Claims 44 and 45 are believed to be non-obvious, and therefore patentable, over the combination of Kolosov et al. with O'Rear, *The Condensed Chemical Dictionary* and Garr et al. Accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

For the foregoing reasons, Claims 39-45 and new Claims 46-80 as presented herein are believed to be in condition for allowance. Such early and favorable action is earnestly solicited.

Respectfully submitted,



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